

U.S. Patent Application Serial No. 09/147,052  
Response filed January 18, 2006  
Reply to OA dated October 19, 2005

**AMENDMENTS TO THE CLAIMS:**

Please amend claims 25-26 and 32-33, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

**Claims 1-24 (Canceled).**

**Claim 25 (Currently amended):** A recombinant Avipox virus having a DNA coding for a fusion protein, comprising:

(i) an antigenic protein isolated from *Mycoplasma gallisepticum* that causes an antibody-antigen reaction with *Mycoplasma gallisepticum* infected serum, and

(ii) a signal polypeptide of herpes Herpes virus glycoprotein B protein, said signal polypeptide being ligated with said antigenic protein isolated from *Mycoplasma gallisepticum* at the N terminus thereof and there being no existence of a membrane anchor peptide such that said antigenic protein is secreted extracellularly, and

wherein upon expression of said fusion protein in a host cell, said antigenic protein is secreted extracellularly.

**Claim 26 (Currently amended):** A recombinant live vaccine for use in fowl against *Mycoplasma gallisepticum* infection, comprising as an effective ingredient a recombinant Avipox

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virus comprising a DNA coding for a fusion protein, comprising:

(i) an antigenic protein isolated from *Mycoplasma gallisepticum* that causes an antibody-antigen reaction with *Mycoplasma gallisepticum* immune serum or *Mycoplasma gallisepticum* infected serum, and

(ii) a signal polypeptide of herpes Herpes virus glycoprotein B protein, said signal polypeptide being ligated with said antigenic protein isolated from *Mycoplasma gallisepticum* at the N terminus thereof and there being no existence of a membrane anchor peptide such that said antigenic protein is secreted extracellularly, and

wherein said fusion protein upon administration into a host cell, immunizes said host cell against subsequent infection with *Mycoplasma gallisepticum*, and said antigenic protein is secreted extracellularly.

**Claims 27 - 31 (Canceled).**

**Claim 32 (Currently amended):** A recombinant Avipox virus comprising a DNA coding for a fusion protein, comprising:

(i) an antigenic protein isolated from *Mycoplasma gallisepticum* that causes an antibody-antigen reaction with *Mycoplasma gallisepticum* immune serum or *Mycoplasma gallisepticum* infected serum, and

(ii) a signal polypeptide of herpes Herpes virus glycoprotein B protein, said signal

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polypeptide being ligated with said antigenic protein isolated from *Mycoplasma gallisepticum* at the N terminus thereof and there being no existence of a membrane anchor peptide such that said antigenic protein is secreted extracellularly, and

wherein said DNA comprises:

(i) a first DNA segment isolated from *Mycoplasma gallisepticum* that codes for an antigenic protein which causes an antibody-antigen reaction with *Mycoplasma gallisepticum* immune serum or *Mycoplasma gallisepticum* infected serum, and

(ii) a second DNA segment isolated from a Marek's disease virus gene that codes for a signal polypeptide of ~~herpes~~ Herpes virus glycoprotein B protein, said first and second DNA segments being ligated to each other such that said antigenic protein is secreted extracellularly, and

wherein upon expression of said fusion protein in a host cell, said antigenic protein is secreted extracellularly.

**Claim 33 (Currently amended):** A recombinant live vaccine for use in fowl against *Mycoplasma gallisepticum* infection comprising as an effective ingredient a recombinant Avipox virus having a DNA coding for a fusion protein, comprising:

(i) an antigenic protein isolated from *Mycoplasma gallisepticum* that causes an antibody-antigen reaction with *Mycoplasma gallisepticum* immune serum or *Mycoplasma gallisepticum* infected serum, and

(ii) a signal polypeptide of ~~herpes~~ Herpes virus glycoprotein B protein, said signal

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polypeptide being ligated with said antigenic protein isolated from *Mycoplasma gallisepticum* at the N terminus thereof and there being no existence of a membrane anchor peptide such that said antigenic protein is secreted extracellularly, and

wherein said DNA comprises:

(i) a first DNA segment isolated from *Mycoplasma gallisepticum* that codes for an antigenic protein which causes an antibody-antigen reaction with *Mycoplasma gallisepticum* immune serum or *Mycoplasma gallisepticum* infected serum, and

(ii) a second DNA segment isolated from a Marek's disease virus gene that codes for a signal polypeptide of herpes Herpes virus glycoprotein B protein, said first and second DNA segments being ligated to each other such that said antigenic protein is secreted extracellularly, and

wherein said fusion protein upon administration into a host cell, immunizes said host cell against subsequent infection with *Mycoplasma gallisepticum*, and said antigenic protein is secreted extracellularly.

**Claims 34 - 38 (Canceled).**

**Claim 39 (Previously presented):** A recombinant Avipox virus according to claim 32, wherein a sequence of said second DNA is codons 1-63 of SEQ ID NO:1 or codons 1-672 of SEQ ID NO:3.

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**Claim 40 (Previously presented):** A recombinant Avipox virus according to claim 32, wherein a sequence of said DNA is SEQ ID NO:1 or SEQ ID NO:3.

**Claim 41 (Previously presented):** A recombinant Avipox virus according to claim 32, wherein said antigenic protein causes an antibody-antigen reaction with *Mycoplasma gallisepticum* immune serum or *Mycoplasma gallisepticum* infected serum *in vivo*.

**Claims 42-43 (Canceled).**

**Claim 44 (Previously presented):** A recombinant Avipox virus according to claim 32, wherein, when an avian cell is infected with said recombinant virus, said antigenic protein is secreted outside said avian cell.

**Claim 45 (Withdrawn):** A recombinant live vaccine according to claim 26, wherein a sequence of said DNA is SEQ ID NO:1.

**Claim 46 (Withdrawn):** A recombinant live vaccine according to claim 26, wherein a sequence of said DNA is SEQ ID NO:3.